

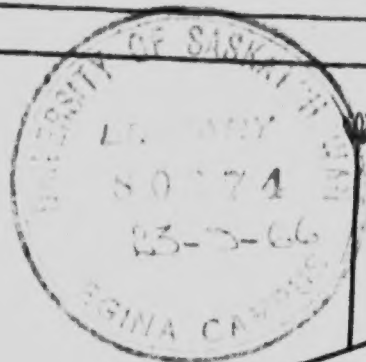


17464

Compliments
Canadian
Manufacturers'
Association



PRESENTED TO THE
DELEGATES TO THE
FIFTH CONGRESS OF
THE CHAMBERS OF
COMMERCE OF
THE EMPIRE . . .
MONTREAL . . 1903



INDUSTRIAL
CANADA

A Survey
of
Canadian
Industries



*"There be three things which make a
nation great and prosperous. A fertile
soil, busy workshops, and easy conveyance
for man and goods from place to place."*

—BACON

To the Delegates from Across the Seas:

SHOULD you wish to supplement
your knowledge of Canada's
industries by visits to any of her
factories, be assured they are open
for your inspection.

CANADIAN MANUFACTURERS' ASSOCIATION
INCORPORATED



E. W. THOMPSON, Montreal



G. E. LAVOIE, Montreal



J. J. HOLLINGSWORTH



W. M. MACDONALD, Montreal



JAMES A. WOOD, Toronto



J. W. ELLIS, Toronto



J. R. HENDERSON, Halifax



R. ROSS, Montreal



JOHN H. SMITH, Victoria

Delegates of C. M. A. to the Fifth Congress of the Chambers of Commerce of the Empire



WINTER'S MOONLIGHT VIEW OF MONTREAL.

INDUSTRIAL CANADA

THE industries of Canada fall into five leading groups: fisheries, mining, lumbering, agriculture and manufacturing. To the development of each and all of these industries Canadians are setting themselves vigorously; but to enable the country to take her full and rightful place, she has need of three principal things: Capital, Population and Markets.

Canada's fisheries are the most extensive in the world; her minerals are known to be in vast supply, but the knowledge has not been fully utilized; not five per cent. of her North-West wheat fields have been touched by the ploughshare, while the manufacturing industries, although it will be seen they have developed into some magnitude, yet, forming as they do the superstructure of the economic building, their present importance only betokens a great future expansion.

The mines need capital, agriculture needs population, and manufacturing needs both. These are the first requisites to develop the rich natural resources of the Dominion, to increase both the internal and export trade.

Hitherto the development of this country has been handicapped by the want of knowledge in foreign countries of its industrial possibilities. Even in Great Britain, with which the greater part of our export trade is done, much is left to be desired in this respect. It has seemed hard for the British public to realize that the world over no better field for investment of capital and emigration is to be found than here.

The present is particularly opportune to call special attention to this matter, for in the framing of any Imperial tariff arrangement, one of the most vital aims to keep in mind is the development of the Empire's latent resources. Coupled with this desire on the part of the Canadians is another, to arrange for the fullest possible trade with the motherland and sister nations within the Empire. Public sentiment is alive to the fact that commerce is the great nation and empire builder.

The following brief resumé of Canadian industries is presented with the hope that the few facts and figures therein contained may assist in giving a clearer knowledge of this important unit of the British Empire.

Material Development

For the length of time over which the industrial history of Canada may be said to extend, the progress made is in many respects highly satisfactory. A few of the chief elements of growth may here be noted as affording a striking evidence to the substantial basis on which the prosperity of the country rests.

Population

First, as to population. The following table shows the total population of Canada at decennial periods since 1831.

COMPARATIVE TABLE OF POPULATION.

	1831	1841	1851	1861	1871	1881	1891	1901
Total Population	1,101,683	1,562,772	2,364,419	3,176,838	3,635,021	4,321,810	4,833,739	5,338,883

From this table it will be seen that the population has increased five times in 70 years.

As Canada has entered on an era of greater industrial prosperity than ever before, the present decade will undoubtedly see a much more rapid increase in the population than the one which has closed. Canada's population has **never** increased as rapidly as it has during the past three years. The emigration of settlers and mechanics to this country has never been as heavy, and the need of farm and factory labor was never so pronounced.

Expansion of Trade

The steady expansion of Canada's foreign trade affords a strong proof of her increasing prosperity. This will be seen from the following table of imports and exports since the Confederation of 1867. Estimating our population last year at $5\frac{3}{4}$ millions, our total trade was \$81.00 per head; that of the United States was \$31.00 per head.

STATEMENT showing, by Classes, the Exports of Domestic Produce from Canada during the years ending June 30, 1873, 1883, 1893, and 1903 (Coin and Bullion not included).

	YEARS ENDING JUNE 30

	YEARS ENDING JUNE 30			
	1873	1883	1893	1903
<i>Home Produce.</i>				
The Mine.....	\$ 5,853,860	\$ 2,976,886	\$ 5,329,890	\$ 31,064,861
.. Fisheries.....	1,779,277	8,809,118	8,743,050	11,800,184
.. Forest.....	29,298,917	25,370,726	26,359,910	36,386,015
Animals and their Produce.....	14,243,017	20,284,343	31,736,499	69,817,542
Agricultural Products.....	14,995,340	22,818,519	22,049,490	44,624,321
Manufactures.....	3,609,903	3,503,220	7,693,959	20,624,967
Miscellaneous.....	465,292	528,895	96,692	83,784
Total Home Produce.....	73,245,606	84,385,707	102,006,490	214,401,674
.. Foreign Produce.....	9,405,910	9,751,773	8,911,856	10,828,087
Exports.....	82,651,516	94,037,480	110,918,346	225,229,761

NOTE.—The figures for 1893 are unrevised.

STATEMENT showing, by Countries, the Imports entered for Consumption, and the Exports of Domestic Produce for Canada, during the years ending June 30, 1873 and 1903 (Coin and Bullion not included).

	IMPORTS.		EXPORTS.	
	1873	1903	1873	1903
<i>British Empire.</i>				
Great Britain.....	\$ 67,996,945	\$ 58,784,847	\$ 31,402,234	\$ 125,199,988
British Australasia—				
Australia.....	388,352	96,909	40,965	2,898,049
New Zealand.....	964,005	42,177	311	480,567
British West Indies.....	1,868,597	1,798,758	1,939,733	2,097,332
Newfoundland.....	243,220	1,140,578	* 2,287,065	2,443,614
Other British Possessions.....		2,977,022	79,461	2,657,705
Totals British Empire.....	71,401,519	64,840,291	35,749,769	135,747,217
<i>Foreign Countries.</i>				
United States.....	45,189,110	128,795,237	33,421,725	67,766,362
France.....	2,023,288	6,580,029	31,907	1,316,713
Germany.....	1,099,925	12,282,637	76,553	1,618,517
Other Foreign Countries.....	4,795,287	12,312,334	3,965,652	7,952,855
Totals Foreign Countries.....	53,107,610	159,970,237	37,495,837	78,654,427
Grand Totals.....	124,509,129	224,810,528	73,245,606	214,401,674

* Includes Prince Edward Island.

Railways and Canals

The settlement and material development of such a vast interior as Canada possesses, receives its stimulus from the growth of transport facilities. In this respect Canada has made rapid strides of recent years. The prosperity of the country is mirrored in the earnings of the railways.

The first railroad was built in 1837, from St. Johns to Laprairie, and was only 15 miles long. In 1849 Canada had only 50 miles, while the United States had 9,021 miles. In 1853 the first locomotives in Ontario were run over the Northern Railway from Toronto to Bradford. At the present time Canada has greater railroads, compared with her population, than any country in the world. A glance at the following statistics will show the progress of this development :—

RAILWAY PROGRESS.

—	1837	1856	1875	1885	1890	1895	1902
Miles.....	16	850	4,856	10,150	13,256	15,941	18,714
Passengers			5,190,416	9,672,599	12,821,262	12,520,585	20,679,974
Tons of Freight.....			5,670,836	14,659,271	20,787,469	21,524,421	42,376,527
Earnings.....		\$6,722,666	\$19,470,539	\$32,227,469	\$46,843,826	\$46,655,883	\$83,666,503

Canada's geography lends great importance to her system of canals. The opening of the Lachine Canal dates back as far as 1825. The Welland Canal was opened in 1829, and the Rideau Canal in 1832. There are now eight canals between Lake Superior and tide water, while the total expenditure on canal building, up to June 30th, 1902, amounts to \$83,519,104.

The development of Canadian railways and canals has had a most wonderful effect on trade and the opening up of the country, by lessening the cost of transportation. The cost of living in the West is now not much higher than in the older provinces in the East, and products from the interior are being conveyed to the coasts at an ever-diminishing cost.

Great improvements, however, are still contemplated in the present systems, and vast tracts of the Dominion have yet to be opened up. A new transcontinental line is now being projected, and the next few years will undoubtedly see a large expenditure of capital in railroad enterprises.

Canadian Fisheries

There are valuable fisheries in every Province of the Dominion. In 1901 the total value of Canada's fisheries to the country was \$25,737,154, over four million dollars larger than any previous year. In area the fisheries of Canada are the most extensive in the world, embracing over 5,600 miles of sea coast, besides innumerable inland lakes and rivers. The salt water area is estimated at more than 1,500 square miles, and the fresh water area at no less than 72,700 square miles. In 1901 there were 78,290 men employed in the fishing industry, using an invested capital of vessels, boats, nets, weirs, etc., of \$11,491,300.

The lobster plant alone is estimated at \$1,388,907, comprising 855 canneries, dispersed on the sea board of the Maritime Provinces and Quebec. No less than 15,315 men found employment in this branch of the industry alone, using 1,363,512 traps.

The salmon preserving industry of British Columbia, representing a capital of about \$1,500,000, gives employment to about 19,000 hands. The pack varies; in 1901 it was 1,247,212 cases, while in 1902 only 625,982 cases.

EXPORTS OF FISH FOR 1902.

Great Britain.....	\$ 6,374,877	
Australia.....	184,168	
British West Indies.....	961,522	
" Guiana.....	261,770	
Other British Possessions.....	92,003	
		\$ 7,874,340
United States.....	\$ 4,184,403	
Brazil.....	435,237	
France.....	442,631	
Porto Rico.....	412,377	
Cuba.....	224,328	
Japan.....	148,425	
Other Foreign Countries.....	421,553	
		6,268,954
Total for 1902.....		\$14,143,294

Forest Wealth

A source of enormous wealth to Canada in almost all her provinces is her forests. The principal woods are maple of several varieties, white and black ash, white and rock elm, hickory, red and white birch, white and red oak, beech, aspen, poplar, walnut, white and red cedar, white and red and black pine, white and black Menzies and Engelman spruce, hemlock, Douglas fir and larch. The greater number of these varieties are, however, confined to a comparatively small area. In the great forests of the north, which form the main source of supply, the principal trees are cedar, balsam fir and poplar, aspen, white birch, tamarac or larch, banksian pine and white and black spruce.

The dimensions of these northern forests are so vast that their size seems almost incredible. They may be said to extend in a forest belt, the central line of which starts from the Straits of Belle Isle, and following a west, south-westerly course till it passes to the south of James Bay, turns north-west and follows this course all the way to Alaska, opposite the mouth of the Mackenzie River. The total length of this belt, according to Dr. Robert Bell, the Director of the Geological Survey, is 3,700 miles, while its average width is 700 miles, giving an approximate total area of 2,590,000 square miles.



A TYPICAL SPRUCE LUMBER MILL, SHOWING A MILL CUTTING 40,000 FEET A DAY AND 100,000 LOGS STORED.

In view of the vastness of these resources, it may be said safely that no country affords a better field for investment in the lumber industry or in the manufacture of wood products.

Statistics are not available to show the value of lumber produced for home consumption, but the following table, containing values of exports for the years 1893, 1897, and 1902, shows the importance of the business in Canada :

	1893	1897	1902
Logs, elm.	\$ 219,068	\$ 77,978	\$ 51,248
Logs, pine	1,057,005	1,832,352	175,684
Logs, spruce	123,254	102,399	63,555
Deals, pine	3,114,822	3,266,087	3,164,552
" spruce and others	4,647,453	7,094,485	4,451,148
Planks and boards	9,640,683	10,817,912	12,568,991
Total lumber	\$19,771,106	\$23,808,562	\$25,620,351
Shingles	755,813	1,201,366	1,525,386
Sleepers or railroad ties	214,892	229,780	182,198
Shooks, box	119,212	80,626	370,405
Total timber	\$ 2,151,374	\$ 2,289,668	\$ 1,767,579
Wood, blocks and other for pulp	386,092	711,152	1,315,038
Total forest	\$26,359,910	\$31,258,729	\$32,119,429

In addition to the above are the manufactures of wood, the exports of which in 1893 were valued at \$1,280,990, in 1897 at \$1,652,317, and in 1902 at \$3,189,843. Of the above heavy increase a great part is due to the increased exportation of wood pulp, which leaped from a value of \$742,000 in 1897 to \$2,046,398 in 1902.

The Mining Industry

The mining industries have kept pace with the marked progress of Canada's other industries during the past few years. In 1899 the production of minerals was \$49,584,027; in 1900 it was \$64,505,137, and in 1901 it was \$66,712,708.

In 1902 the value per capita of the mineral income of the community, based on an estimate of the population, amounted to \$12.04, as compared with about \$8.90 in 1899, and \$2.23 in 1886.

The following table will show at a glance the mineral production of Canada for the year 1902.

CANADA'S MINERAL PRODUCTION IN 1902.

PRODUCT	QUANTITY	VALUE	PRODUCT	QUANTITY	VALUE
<i>Metallic.</i>			<i>Non-Metallic—Con.</i>		
Copper	39,168,202 lbs.	\$ 4,553,695	Gypsum	332,045 tons	\$356,317
Gold .....	.....	20,741,245	Lime .....	.....	.....
Iron Ore (exports).....	428,901 tons	1,065,019	Limestone for Flux	293,108 tons	218,809
Lead	23,000,000 lbs.	935,870	Manganese.....	84 "	2,774
Nickel.....	10,693,410 "	5,025,903	Mica .....	.....	400,000
Pig Iron	856 tons	1,043,011	Mineral Water.....	.....	100,000
Silver (fine, in ore, etc.)	4,373,000 ozs.	2,280,957	Moulding Sand	13,352 tons	27,681
Zinc	166,700 lbs.	8,068	Natural Gas.....	.....	195,992
<i>Non-Metallic.</i>			Ochres	4,955 tons	30,495
Actinolite	550 tons	4,400	Peat	475 "	1,663
Arsenic	800 "	48,000	Petroleum (brls. 35 imp.	.....	.....
Asbestos	40,411 "	1,203,452	gall.)	521,485 brls.	934,740
Barvta	1,096 "	3,957	Phosphate	856 tons	4,953
Bricks.....	.....	.....	Potters' Ware.....	.....	200,000
Building Stone.....	.....	.....	Pyrites.....	35,616 tons	138,939
Cement, natural.....	124,400 brls	91,850	Salt	63,056 "	288,580
" Portland	594,594 "	1,028	Sand and Gravel (ex-	.....	.....
Chromite.....	900 tons	12,500	ports).....	159,793 "	119,120
Coal	7,630,255 "	15,538,611	Sewer Pipes.....	.....	291,465
Coke	306,466 "	1,558,930	Slate.....	.....	19,200
Corundum	768 "	84,468	Terra-cotta.....	.....	348,597
Felspar.....	7,576 "	11,375	Tripolite.....	900 tons	15,800
Fire Clay	2,741 "	4,283	Talc.....	689 "	1,804
Granite.....	.....	170,000	Estimated value of	.....	.....
Graphite	1,095 tons	28,300	mineral production	.....	.....
Grindstones.....	6,154 "	48,400	not returned.....	.....	300,000
			Total for 1902 .....	.....	\$64,970,732

This splendid total of \$65,000,000 compares strikingly with \$10,000,000 produced in 1886, \$16,000,000 in 1890, and \$20,600,000 in 1895. In 1901 the production was slightly higher, being \$66,700,000, which shows that the high volume is likely to be maintained.

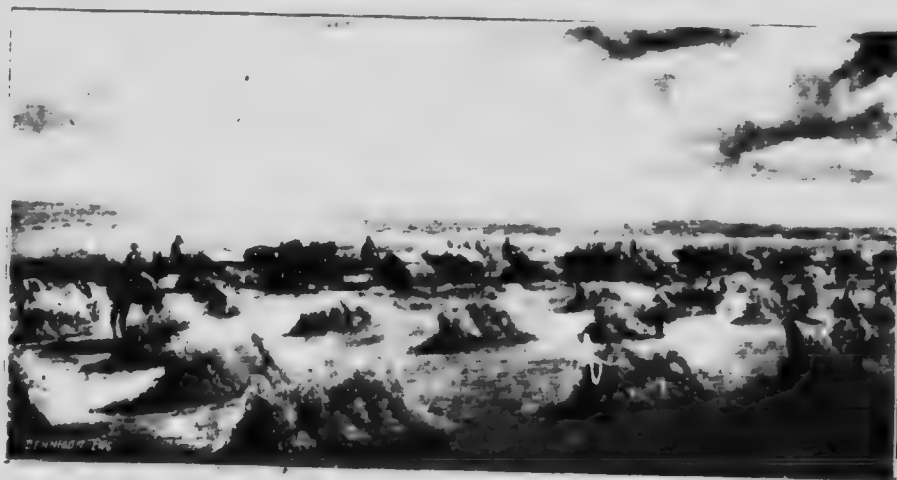
As has been said, however, the mineral wealth of Canada has hardly more than begun. There is untold wealth of gold in British Columbia and the Yukon, with smaller deposits in other parts of the country. The coal areas are estimated at 100,000 square miles, the workable seams being in some districts 60 to 70 feet wide. Iron, nickel, copper, silver and lead among metals, and asbestos, petroleum and mica among iron metallic minerals, are also found in large quantities in different parts of the Dominion.

There have been some drawbacks to our speedy and successful development of our mineral resources, but capital is flowing in in a steady stream, and the production will increase proportionately.

Agriculture

About 45 per cent. of the population of Canada is supported by farming. In addition to this there is a large class employed in industries arising out of farming, such as flour and oatmeal milling, pork and beef packing and cheese and butter manufacturing.

Agriculture is thus the paramount industry in Canada, which has become famous for the excellence of its agricultural



HARVESTING CANADIAN WHEAT.

products. The chief reasons for this preponderance are the fertility of the soil, the diversity of the climate and the prevailing levelness and low altitude of the greater portion of the country. The census of 1901 on this matter is not yet published, but appended are the figures for 1881 and 1891.

STATISTICS

	1881	1891
Total acres occupied		
Acres of improved lands	45,358,141	60,287,730
" under crop	21,899,181	28,537,242
" in gardens and orchards	15,112,284	19,904,826
" in pasture	401,335	161,462
	6,385,562	15,284,788
	87,156,503	124,479,048

While these figures are quoted, we fear that they will scarcely give a correct idea of our grain-growing greatness. The census of 1901 will doubtless show the proportionate increase given in this table, and even now not five per cent. of Canada's arable wheat raising lands in Manitoba and the Northwest Territories are under cultivation. Last year it was estimated 7,000,000 acres were tilled, while the area of Athabaska, Manitoba, Assiniboia, Saskatchewan and Alberta is calculated at 384,724,429 acres. At the very least 100,000,000 acres of that land will grow Manitoba No. 1 hard at a low estimate of 15 bushels an acre, making 1,500,000,000 bushels of wheat. Great Britain imports about 130,000,000 bushels of wheat. *Is it then an idle boast that we shall be "Britain's Granary?"*

The export commerce in most of our farm products is increasing as our grain-growing capacity expands and our dairy products improve. The following comparative statement of the value of exports of some of the farm products of Canada, during the years 1893 to 1902, shows the growth in that short period, and indicates somewhat of the great possibility for the expansion of that trade.

VALUE OF SOME CANADIAN FARM PRODUCTS EXPORTED
IN YEARS 1893, 1899 AND 1902

	1893	1899	1902
Wheat	\$ 7,060,033	\$ 7,784,487	\$18,688,092
Flour.....	1,741,028	3,105,288	3,968,850
Oats.....	2,553,910	3,268,388	2,052,559
Oatmeal	625,977	396,568	344,332
Pease	2,441,434	1,935,598	1,582,764
Cattle	7,745,083	8,522,835	10,663,819
Cheese.....	1,340,740	16,776,765	19,686,291
Butter	1,296,814	3,700,873	5,660,541
Meats	3,132,576	10,788,416	11,122,071
Eggs	868,007	1,267,063	1,733,242
	\$40,846,602	\$57,506,281	\$78,502,561

Manufacturing

Canada is undoubtedly strong in agriculture, fishing and mining, and she has rounded off that well-being by cultivating strength in manufacturing. The exports of Canada's manufactured goods are valued in different ways. According to one estimate, the exports have increased from \$1,572,546 in 1868 to \$20,624,967 in 1903. According to another official estimate, which includes refined oil, salt, shingles, sawn lumber and other genuine manufactures, the exports for 1902 totalled the sum of \$16,118,081, making the value of export manufactures second only to the exports of "animals and their produce."

1868

1896

1903

GROWTH OF EXPORTS OF MANUFACTURES.

The census returns for 1891 show that the number of mechanical and manufacturing establishments increased from 49,722 in 1881, to 75,968 in 1891; the capital invested increased from \$165,000,000 to \$354,000,000, and the value of the product increased from \$310,000,000 to \$476,200,000. The census industrial returns for 1901 are not yet published, but it is estimated that the capacity of Canadian factories has at least doubled since 1891. From this it is calculated that almost half of Canada's population is directly or indirectly dependent upon her manufacturing industries; and yet our manufacturers are in need of 25,000 mechanics to-day.

There is much to make her a great manufacturing country. The survey of the four great industries outlined will show that there is an abundant supply of raw material. The farming classes are, and will be, heavy consumers of manufactured goods, and they wish to expand the best market for their own goods by encouraging home production.

Cheap motive power is another essential for manufacturing, with which this country is well equipped. In addition to extensive deposits of coal in the eastern



A TYPICAL CANADIAN FACTORY.

and western extremities of the Dominion, almost unlimited supplies of water power are scattered throughout the older provinces and in British Columbia. With electrical transmission of power, such as that now coming into Montreal from Shawinigan Falls, a distance of 85 miles, the importance of these water powers would be difficult to calculate.

Food Products

Space allows of special mention to only a few of the most important manufacturing industries. In this list, that of food products, which is closely bound up with the agricultural industry, ranks high.

FLOUR AND OAT MEAL.—There are about 1,200 flour mills in Canada, with a capacity of \$40,000,000 to \$45,000,000 worth of flour a year. Although vast quantities of wheat are exported from Canada, a large and ever increasing amount is converted into flour in our large milling establishments. Canadian flour has won for itself a splendid name in foreign markets, and on account of its excellent quality, it is often mixed with flour from other countries. In 1902 the amount exported was \$3,068,800, the greater part of which went to Great Britain and Newfoundland. Oatmeal is also milled extensively, its exports amounting to about \$350,000.

BUTTER AND CHEESE.—The making of butter and cheese has passed from the farmers' wives into the hands of creameries and cheese factories. A higher quality is thus produced, as better appliances are used and more expert knowledge employed. The establishment of a government system of cold storage has greatly facilitated export. In 1902 the total value of butter exported was \$5,660,541, and of cheese, \$19,686,291, nearly all of which went to Great Britain. Canada now supplies Great Britain with about three-fifths of her cheese needs.

BACON AND DRESSED MEATS.—The packing industry in Canada is also conducted on a large scale, although it must be said only the basis of a future has been laid. Our Canadian pork products, in particular, find a ready sale on the British market. The total exports in 1902, of pork, bacon and hams, amounted in value to \$12,457,863.

The value of dressed beef exported in 1902 was \$414,095, little more than half of what it was the year previous; yet this industry is being extended. Mutton, dressed poultry and canned meats also form important items of export.

CANNED GOODS—A considerable amount of capital is employed in the canning of vegetables and fruits, canneries dotting the fruit and vegetable growing districts. The output of these goods is now more than sufficient for the home demand, and Canadian canners are turning their attention to the British market. Here, it is gratifying to know, they are finding a good sale, as the superior excellence of their product becomes known.

The canning of salmon in British Columbia is another important industry, the exports in 1902 amounting to \$5,012,738.

Manufactures of Wood

Statistics have already been given to show the importance of the lumber industry to Canada. A few of the leading manufactures of wood may now be noted.

WOOD PULP.—Dr. George Johnson, the Dominion Statistician, estimates that there are 4,500,000,000 tons of wood pulp in sight in Canada. This means that at the present rate of consumption in Great Britain and the United States, it would take 5000 years to use up Canada's visible supply of pulp.

At present Canada has about \$25,000,000 invested in the manufacture of wood pulp and paper, and this amount is continually increasing. The superior quality of Canadian spruce, its unlimited quantity, and the abundant supply of water power, all combine to make Canada one of the best equipped countries in the world for the manufacture of this article. In 1902 Canada exported about 57 per cent. of her total production of pulp, amounting to \$2,511,664.

PAPER.—Closely associated with the manufacture of wood pulp is that of paper. Up to the present time almost the entire output of Canadian paper mills has been required for home consumption, but with the greatly increased production of wood pulp the manufacture of paper has also rapidly advanced, and paper is beginning to figure prominently in the list of exports. To-day Canada is producing about 1,500,000

pounds of paper every 24 hours. This includes not only news print, book paper and ledger, bond and writing paper, but also the coarser grades of product as well, such as wrapping, felt, building and manilla papers.

FURNITURE—The manufacture of furniture is now being carried on in Canada on a large scale. The wants of different countries are being studied, and highly skilled workmen employed to produce the styles in demand. A large foreign trade is sure to develop, as this is an industry peculiarly adapted to Canada, owing to the value and variety of the woods available for raw material. Exports in 1902 amounted to \$285,276.



A TYPICAL PULP AND PAPER MILL.

AGRICULTURAL IMPLEMENTS.—One of Canada's great industries is that for the manufacture of agricultural implements. They are now about as well known in foreign lands as they are at home. In fact, the growth of the industry in Canada has gone hand in hand with the agricultural progress of the country. The result is that there is hardly an important market in the world

where Canadian agricultural implements are not used. In 1902 the exports amounted to \$1,520,800.

MUSICAL INSTRUMENTS—Canadian organs have won the highest awards at world's expositions and are not only supplying the home, but are finding a ready sale in foreign markets. The manufacture of pianos has also advanced rapidly of late years; of organs, the exports in 1902 were \$304,689, and of pianos \$78,914.

VEHICLES—The vehicle industry is conducted by large firms that are now branching out into export trade. Canadian carriages are noted for their elegance and strength, and have excited favorable comment at all exhibitions. The bicycle and motor cycle industry, which is a branch of the vehicle industry, has assumed good proportions. In 1902 the exports of bicycles amounted to \$316,132, a large proportion of which went to Australia. Other exports in vehicles amounted to \$211,594.

OTHER MANUFACTURES OF WOOD.—A few of the other important articles of manufacture from wood may be enumerated. Doors and sashes are produced in large quantities and shipped to Great Britain, South Africa and Australia. Matches are also made economically, both from paper and wood. Large factories are employed in the making of interior decorations and house furnishings, considerable quantities of which are exported. Woodenware, such as pails and churns, is a profitable line, and so are wood specialties, which consist of odd ends of good lumber utilized for such purposes as skewers, handles, dowels, etc. Bent goods, in the form of hubs, spokes, rims, etc., are produced both for the home market and for export trade.

Manufactures from Minerals

IRON AND STEEL INDUSTRIES.—The last few years have seen Canadians bending energetically to the firm establishment of a great iron and steel industry in different parts of the country. The Government has dealt liberally in the matter of bounties, and the investing public has supported the companies. The united investment at Sydney Hamilton, Deseronto, Midland, New Glasgow, Radnor, Drummondville and Ferrona, amounts to \$24,500,000, which is being increased to \$35,000,000. This does not include the works building at Sault Ste. Marie, Ont., and Londonderry, N.S.

The production of pig iron in Canada amounted in the calendar year 1902 to 326,962 gross tons, as compared with 244,976 tons in 1901, and 53,796 tons in 1897. On December 31st, 1902, there were twelve furnaces in blast, and four in course of construction. Among the latter is one of 45,000 tons yearly capacity at Londonderry, and a 200-ton furnace at North Sydney, which may in time supersede that at Ferrona. Of

recent years the importation of pig iron into Canada has decreased ; the imports for 1902 amounting to 43,064 tons. There was also produced in 1902 of steel ingots 147,639 tons, and of puddled bars 5,869 tons. The annual consumption of iron and steel and their products in Canada is 800,000 to 820,000 tons.

Manufactures from Iron and Steel



IRON AND STEEL FURNACES

cient for her wants from Canadian ore. But meanwhile her imports must be heavy.

Although Canada imports about \$33,000,000 worth of "iron and steel and the manufactures thereof," she produces vast quantities of highly finished products within her domestic factories. For heating apparatus her fame is widespread ; of agricultural machinery we have already spoken ; in nails, horse-shoes, iron pipe, bolts, and similar hardware, Canadian rolling mills have almost complete control of this market. A beginning is being made at the manufacture of steel rails, and, from that heavy commodity down the list, Canada hopes in time to produce sufficient for her wants from Canadian ore. But meanwhile her imports must be heavy.

The manufacture of cement has grown to be an important industry, the production in 1902 amounting to \$1,120,488. Large aluminum and carbide works are being established, and the export prospects in carbide are particularly bright. Mica is employed as a basis material in several industries. The asbestos industry is growing, and the output of corundum and graphite is increasing, and with additional skill and capital the resources in these lines must prove a true high value.

Other Important Industries.

TEXTILES AND CLOTHING.—Cottons, woollens and silks form the products of three large industries in this country. In the cotton industry there is \$25,000,000 invested in mills, scattered from Halifax, N.S., to Hamilton, Ont., producing about two-thirds of the wants of the Canadian people. In the woollen industry there is about \$15,000,000 capital represented, producing tweeds, flannels, knitted goods, cloths, carpets and underwear. These two industries employ from 25,000 to 30,000 hands.

In conjunction with the textiles may be mentioned the clothing industry. The manufacture of ready-made clothing of all kinds has grown apace, and the Canadian people have most of their wants supplied by Canadian factories. An export trade to the sister colonies has also been successfully prosecuted.

LEATHER GOODS.—In 1902 Canada exported only \$1,693,241 worth of hides and skins, while her import amounted to \$5,661,334. In 1896 the imports were only \$1,945,914. From the imports and local supply are made the various leathers and leather goods for home consumption and for export. In boots and shoes, saddlery and harness, Canada is doing an increasing foreign trade.

MISCELLANEOUS.—In three large refineries Canada produces the best sugar in the world, in sufficient quantities for her requirements. In 1902 Canada made 151,780,516 cigars, mostly for her own needs. She made most of her cigarettes; she manufactured 2,933,183 gals. spirits, 27,623,767 gals. malt liquor, and 71,440,519 lbs. malt. Other lines, such as rubber goods, oil cloth, paints and varnishes, wall paper, jewellery, drugs, explosives, oil cake, soap, cordage, glass, starch, brass goods, machinery of all descriptions, hats and caps, and belting, might all be fully dealt with, showing that even a successful export trade is being cultivated. But it is hoped that sufficient has been said to give some idea, however inadequate, of Canada's natural resources, as well as her industrial advancement and ambitions. So far as her manufactures are concerned, they have grown beyond producing merely to satisfy the home market of five and a half million people. They are now looking out upon the world as their market, and are equipping themselves to enter the world competition in an intelligent and progressive manner.

An Extract from an Address of Hon. J. D. Rolland, Chairman of the Montreal Branch of the C.M.A., delivered August 6, 1903

If any Imperial tariff scheme is to be a success, it must be constructive and not destructive. It must lead to the production within the Empire of some of the foreign-made goods consumed by the five hundred million subjects of King Edward throughout the world. Its aim, I take it, is to make the Empire self-contained.

The first requisite is a supply of food products. As yet the colonies are supplying but a small percentage of Great Britain's food supply, but we all hope that in a few years' time, when our prairies have been turned into wheat fields, that we shall have a fair claim to the title, "Britain's Granary." The other colonies will also contribute their share. It is unnecessary for me to point out that a preference in the English market would materially stimulate our production. As to whether England would be justified in establishing a tariff in order to develop the colonies, I am not prepared to discuss. This is a matter for Englishmen to decide. We can only assure them that it is the last wish of the colonies that Great Britain should establish a tariff for the benefit of the colonies and to its own detriment. Personally, I believe that Britain would do well to encourage trade within the Empire, as she is finding the foreign gates barred by adverse tariffs. * * * What would Canada have to offer as a *quid pro quo* for a preference if such is to be demanded? And first, I will say what she will *not* offer, and that is the destruction or curtailment of her manufacturing industries. We have been endowed with exceptional manufacturing facilities, resources, water powers, and a transportation system. Twenty-five years ago we set out to utilize our opportunities energetically, and in the future I trust our energy in this direction will only increase. * * * We must amply protect our own Canadian industries. Free trade within the Empire is an impossibility. Our workmen will never consent to live on the wages given the English mechanics: our rate of interest is 2 per cent. higher than in London, Eng.; our market is, as yet, small, and the cost of production consequently higher. A tariff must be granted to cover these differences of circumstances. * * * But what we can give is a more substantial preference on the goods we do not manufacture. * * * * *



TEXTILE FACTORIES EMPLOYING 3,000 HANDS.